

Appendix 4-1 - Redesignation Inventories

The 1-hr ozone attainment redesignation process requires 1990, 1999, 2007 and 2012 emission inventories for nitrogen oxides (NOx) and volatile organic compounds (VOC) for a ten county area. The ten county area is comprised of Door, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties. Emissions from these ten counties are partitioned into five geographic areas: a six county area comprised of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha; Door county; Kewaunee county; Manitowoc county; and Sheboygan county.

1. Organization of the Inventories

To enable the ease, accuracy of calculation and analysis, ozone precursor inventories are traditionally divided into sectors according to the nature of the source activity. Traditionally, ozone precursor inventories are divided as follows:

Point Sources: Point sources are industrial or commercial facilities which are normally located in permanent locations, and which emit air pollutants in great enough quantities to warrant individual quantification. The 1990 point source emission inventory is limited to sources emitting more than 10 tons/year of any single criteria pollutant or 25 tons/year of any combination of criteria pollutants. To better enable detailed control evaluations, the 1999 point source emission inventory includes as many sources as possible (i.e. every source that reported nitrogen oxides (NOx) or volatile organic compounds emissions (VOC).) to the 1999 Wisconsin point source emission inventory) regardless of the magnitude of reported emissions.

Area Sources: The area source inventories enable an agency to estimate emissions collectively for those sources that are too small and/or too numerous to be tracked individually in the point source inventory. The area sources includes commercial/institutional, industrial and residential sources.

Non-Road Mobile Sources: This sector of the emission inventories includes emissions from motorized equipment and other small and large engines whose primary function is not for use on public roadways.

Highway Mobile Sources: This sector of the inventories includes emissions stemming from the operation of vehicles designed primarily of highway use, such as cars, trucks, buses and road motorcycles.

2. Overview of the Inventories

All emission inventories are divided into five geographic areas: Door county, Kewaunee county, Manitowoc county, Sheboygan county and a six county area composed of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties. The redesignation emission inventories contain NOx and VOC emissions only. All emissions are reported in tons of pollutant per average ozone season day with the exception of the highway mobile sector that uses a hot summer weekday. The ozone season is defined as the months of June, July and August.

1990 Emission Inventory: This emission inventory is based on the 1990 Periodic Emission Inventory. Selected area source categories emissions have been improved by updating emission factors, activity data, seasonal adjustment factors using the 1999 Redesignation Emission Inventory depending on the relative significance of the category's emissions and the resources needed to update a category (See **Table 1**). Highway mobile source emissions have been recalculated using the most current data. Most of the non-road emissions from a U.S. EPA non-road inventory have been reapportioned to the counties using a method approved after the submission of the 1990 Periodic Emission Inventory.

1999 Redesignation Emission Inventory: This emission inventory has been created using reported point source emissions, EPA's Acid Rain Program point source emissions and approved EPA techniques for emissions calculation. Whenever feasible, federal, state and local controls are factored into the emissions calculations. This inventory is used as the base year emission inventory for the 2007 and 2012 projected emission inventory.

2007 and 2012 Projected Emission Inventories: These two emission inventories are projected from the 1999 Redesignation Emission Inventory using a variety of growth factors and control factors. Sources for growth factors include point source emission trends, Economic Growth Analysis System (EGAS), linear miles of road, vehicle miles traveled (VMT), population, gasoline sales, employment and others. Sources of control factors include *Chapter NR 428: Control of Nitrogen Compound Emissions* in the *Wisconsin Administrative Code*, Federal Non-road engine standards, "Phase 2" reformulated gasoline, "Tier 2" standards for new automobiles and light trucks, low sulfur gasoline requirements and others.

3. Calculation of 1990 Emission Inventory

This section briefly describes how the 1990 Emission Inventory was developed through collection, reduction and calculation of activity and emission factor data. Except for motor vehicle emissions, all category emissions were first calculated on an annual basis, then adjusted temporally to reflect average ozone season day emissions by incorporating quarterly throughputs and operating schedules. Control efficiencies coupled with a default rule effectiveness (RE) of 80% were incorporated into the resultant emissions. More detailed information concerning methodologies can be gathered from Wisconsin's 1990 Base Year Inventory Document Report. Updating of some of the area source categories has been performed based on the 1999 Redesignation Emission Inventory. With the exceptions of locomotive, commercial marine, recreational marine and aircraft categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) has been reapportioned.

3.1 Point Sources

Emissions were estimated by collecting process-level information from each facility that qualifies for inclusion into a state's point source database. In Wisconsin, this information is normally collected via a computer diskette submittal, and subsequently uploaded into the point source database. Process, boiler, fugitive and tank emissions were typically calculated using throughput information, multiplied by an emission factor for that process. Emission factor sources included mass balance, stack testing, continuous emissions monitors, engineering judgment and U.S. EPA's AP-42 documented collection of emission factors.

3.2 Area Sources

Area source emission estimates were typically calculated using county-level estimates of population, gasoline consumption, employment or other related commercial/institutional, industrial or residential related surrogates. For the appropriate categories (e.g. industrial fuel combustion), to avoid double counting, point source employment was subtracted from county level employment prior to multiplication with emission factors. Emission factors were derived from local or national surveys, or U.S. EPA procedural guidance for the development of emission inventories. Some categories of area sources have been improved by updating emission factors, activity data, seasonal adjustment factors using the 1999 Redesignation Emission Inventory depending on the relative significance of the category's emissions and the resources needed to update a category (See **Table 1**).

3.3 Non-Road Mobile Sources

The contribution of non-road equipment to the emission inventories was determined by a combination of equipment population, the average engine load factor, the annual hours of use, the horse power rating, as well as the emission factor attributable to each engine. The majority of this sector was provided to states by U.S. EPA in July 1992. Equipment types provided include: lawn & garden, airport service, recreational, light commercial, industrial, construction, agricultural and logging equipment. Locomotive, aircraft, commercial and recreational marine emissions were calculated by Wisconsin staff using U.S. EPA emission inventory guidance, along with activity data collected at the state level. With the exceptions of aircraft, commercial marine, locomotive and recreational marine categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) has been reapportioned to the county level using an U.S.EPA approved method developed by Energy and Environmental Analysis, Inc..

3.4 Highway Mobile Sources

Emissions were estimated for each of the five geographic areas using vehicle-miles of travel (VMT) as the activity factor and emission factors from the U.S. EPA's MOBILE5a model. An off-model adjustment was done to account for the effect of heavy-duty diesel "defeat devices", using an U.S. EPA spreadsheet program.

3.4.1 Vehicle-Miles of Travel (and Average Speeds)

The Southeastern Wisconsin Regional Planning Commission (SEWRPC) provided the 1990 VMT for the six-county area, as well as VMTs for the other three inventory years (1999, 2007 and 2012). These VMTs represent a summer weekday, converted to that time period by SEWRPC using adjustments specific to the area. SEWRPC disaggregated the VMT for each of the four years into 26 classes: 12 speed ranges for travel on standard arterials, 12 speed ranges for travel on freeways, and 2 areas (urban and rural) for travel on local roadways.

The 1990 VMTs for the other four counties were "backcasted", by WDNR, from 1995 and 1999 Highway Performance Monitoring System (HPMS) VMTs for an annual average day provided by the Wisconsin Department of Transportation (WDOT). These 1990 annual average day VMTs were then converted to 1990 summer weekday VMTs using adjustment factors provided by WDOT. The VMTs for these four counties are separated into 12 functional classes based on the HPMS classification system. WDOT provided WDNR average speed estimates for light-duty travel and heavy-duty travel for each of the 12 classes on February 15, 1999. These 24 average speeds were used for all four inventory years.

3.4.2 Emission Factors

Separate MOBILE5a emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the other four counties. In addition to the off-model adjustment for diesel "defeat devices", updated NOx emission rates for heavy-duty diesel vehicles were input into the model in accordance with U.S. EPA technical guidance (MOBILE5 Information Sheet # 5, January 30, 1998).

Local distributions of VMT by the eight vehicle types were used for each of the four inventory years instead of default distributions from the MOBILE5 model. These distributions were based on: (1) the vehicle type distributions provided in SEWRPC's Memorandum Report Number 125 (conformity assessment document), December, 1997, page 25b, and (2) estimated 1999 and projected 2007 and 2012 vehicle type distributions provided by WDOT on March 19, 2002. The final distributions used by WDNR include adjustments based on Wisconsin inspection and maintenance (I/M) program data (total vehicles tested by vehicle type and model year). Where necessary, distribution values were "backcasted" or projected based on data from WDOT annual

Vehicle Classification Data reports or by the U.S. EPA's most recent projected default distributions.

Also, for all four inventory years, local distributions of vehicle age were used for the three light-duty gasoline-powered vehicle types. These distributions were estimated and projected from Wisconsin I/M program data (total vehicles tested by vehicle type and model year). As required by the MOBILE5 model, the age distributions for the two light-duty diesel vehicle types were set equal to the distributions for the corresponding gasoline vehicle type. For the remaining three vehicle types (heavy gasoline trucks, heavy diesel trucks and motorcycles), the MOBILE5 default age distributions were used.

A "basic" inspection and maintenance (I/M) program, with tampering inspections, was modeled for the six-county area. Conventional gasoline was modeled for all 10 counties, with a Reid Vapor Pressure (RVP) of 10.3 psi.

Detailed data for the highway mobile sector modeling for all inventory years are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone: 608/266-5542, e-mail: boveec@dnr.state.wi.us)

4. Calculation of 1999 Redesignation Emission Inventory

This section describes the development of the 1999 Emission Inventory through collection, reduction and calculation of activity and emission factor data. Except for motor vehicle emissions, all category emissions are first calculated on an annual basis, then adjusted temporally to reflect average ozone season day emissions by incorporating quarterly throughputs and operating schedules. Many of the methods used are identical to those employed in the generation of the 1990 Emission Inventory.

4.1 Point Sources

Emissions are estimated by collecting process-level information from all facilities reported to the Wisconsin point source inventory regardless of the quantities of reported emissions. In Wisconsin, this information is normally collected via a computer diskette submittal, and subsequently uploaded into the point source database. Emission generating processes' emissions are typically calculated using throughput information, multiplied by an emission factor for that process. Emission factor sources include mass balance, stack testing, continuous emissions monitors, engineering judgment and U.S. EPA's Factor Information Retrieval (FIRE) Data System which incorporates U.S. EPA's AP-42 documented collection of emission factors. Emissions reported to U.S. EPA's Acid Rain Program take precedence over any emissions reported to or calculated from data directly submitted to Wisconsin's point source emission inventory. Unlike the 1990 Emission Inventory, portable sources such as asphalt plants and rock crushers are treated as area sources.

4.2 Area Sources

As with the 1990 Emission Inventory, area source emission estimates are typically calculated using county-level estimates of population, gasoline consumption, employment or other related commercial/institutional, industrial and residential surrogates. For the appropriate categories (e.g. industrial fuel combustion), to avoid double counting, point source employment is subtracted from county level employment prior to multiplication with emission factors. Emission factors are derived from local or national surveys, or U.S. EPA procedural guidance for the development of emission inventories.

4.2.1 Area Sources Estimation Methodologies

Besides changes in some of the values of fundamental parameters used in estimating emissions from some area source categories (e.g. emission factors and seasonal adjustment factors) that have been reconciled between the 1990 Emission Inventory and 1999 Redesignation Emission Inventory, some 1999 area source categories use different methodologies. When compared to the 1990 Emission Inventory, area source categories using different methodologies include:

- dry cleaning
- fuel combustion – residential
- gasoline storage and transport – gasoline tank trucks
- gasoline storage and transport – stage 1
- gasoline storage and transport – underground tank breathing
- gasoline storage and transport – stage 2
- municipal solid waste landfills (MSWLS)
- pesticide application
- publicly owned treatment works (POTWs)
- surface coating – automobile refinishing
- surface coating – factory finished wood
- hazardous waste treatment, storage and disposal facilities (TSDFs)

4.2.2 Area Source Controls

Area source controls are implemented for ten different area source categories. The ten controlled area source categories are commercial and consumer solvents, degreasing, gasoline storage and transport – stage 1, gasoline storage and transport – stage 2, gasoline storage and transport – underground tank breathing, municipal solid waste landfills (MSWLS), surface coating – architectural coatings, surface coating – automobile refinishing, surface coating – traffic markings and surface coating – wood furniture (see **Table 2**).

4.3 Non-Road Mobile Sources

With the exceptions of aircraft, commercial marine and locomotive categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) are grown and controlled from the 1990 Emission Inventory using growth factors derived from projected equipment populations in the NONROAD model and control factors based the Federal non-road engine standards from the Lorang memorandum (See **Table 3**). Aircraft emissions are estimated using the Federal Aviation Administration's Emissions and Dispersion Modeling System (EDMS) version 4.01. Commercial marine emissions are estimated using the same methods detailed in Wisconsin's 1990 Base Year Inventory Document Report. Locomotive emissions are estimated using railroad length, frequency of travel and fuel consumed.

4.4 Highway Mobile Sources

As in the 1990 Emission Inventory, 1999 emissions were estimated for each of the five geographic areas using VMT as the activity factor and emission factors from the MOBILE5a model, with an off-model adjustment for diesel "defeat devices".

4.4.1 Vehicle-Miles of Travel

Estimated 1999 summer weekday VMT for the six-county area was provided by SEWRPC, disaggregated into 26 classes. For the other four counties, the 1999 summer weekday VMTs were calculated from 1999 annual average day HPMS VMTs, provided by WDOT, and the same summer weekday adjustment factors used for 1990. Again the VMTs for each of these four

counties are separated into the 12 HPMS functional classes. Summer weekday VMT growth from the 1990 inventory to the 1999 inventory was 19% for the six-county area, 27% for Sheboygan County, 26% for Manitowoc County, 29% for Kewaunee County and 27% for Door County.

4.4.2 Emission Factors

As in the 1990 Emissions Inventory, separate MOBILE5a emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the other four counties. Also, as in the 1990 Inventory, updated NOx emission rates for heavy-duty diesel vehicles were input into the model in accordance with MOBILE5 Information Sheet # 5, local data were used for the distribution of VMT by the eight vehicle types, and local data were used for the vehicle age (registration) distributions for the three light-duty gasoline-powered vehicle types.

An enhanced I/M program was modeled for the six-county area and Sheboygan County. Only HC and CO cutpoints were modeled. Following U.S. EPA guidance, the benefit from the gas cap test was assumed to be 40% of the pressure test benefit. Phase 1 reformulated gasoline was modeled for the six-county area. Conventional gasoline with an RVP of 8.8 psi was modeled for the other four counties.

4.4.3 2001 Emissions

As a separate exercise, highway mobile source emissions were also estimated for the year 2001. The purpose of this exercise was to demonstrate a net reduction in NOx emissions, from all sectors, from 1990 to the attainment years (1999-2001). Highway mobile sector NOx emissions for the 10-county area decreased by over 17 tons from 1999 to 2001. This decrease offsets the 8 ton increase in NOx emissions, from all sectors, from 1990 to 1999.

The 2001 estimate was done using the same methodology used for the year 1999. VMTs were linearly interpolated between 1999 and 2007 VMTs. (The projected VMT growths from 1999 to 2007 are provided in section 5.4.1.) Additional controls modeled were Phase 2 reformulated gasoline (full benefit) and NOx I/M cutpoints (7.5% of the full benefit). MOBILE5b was used to model the NOx benefit from Phase 2 reformulated gasoline since MOBILE5a does not provide any NOx benefit from Phase 2 reformulated gasoline. The "7.5% of the full benefit" for NOx cutpoints represents the portion of the two-year test cycle between May 7, 2001 (the start date of NOx cutpoint enforcement) and July 1, 2001.

Detailed data for the highway mobile sector modeling for all inventory years, and also 2001, are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone: 608/266-5542, e-mail: boveec@dnr.state.wi.us)

5. Calculation of 2007 and 2012 Projected Emission Inventories

The 2007 and 2012 Projected Emission Inventories are forecast from the 1999 Redesignation Emission Inventory. The sources for the growth and controls factors for 2007 and 2012 are the same.

5.1 Point Sources

The point source processes have been divided into electric generating unit (EGU) processes and non-electric generating unit (non-EGU) processes to calculate growth factors and control factors. Non-EGU processes have been further subdivided into fourteen groups to calculate growth factors defined by source classification codes (SCC) (See **Table 4**).

5.1.1 Point Source Growth

A point source growth factor of 1.8% per year is used for EGU processes. Growth factors for combustion, non-EGU processes in the fourteen groups are calculated by Economic Growth Analysis System (EGAS). Growth factors for non-combustion, non-EGU processes in the fourteen groups are calculated by using uncontrolled point source emissions trends between 1996 and 2000 for non-combustion processes in the fourteen groups (See **Tables 5 and 6**).

5.1.2 Point Source Controls

No future VOC controls are used. NOx controls are limited to those created by *Chapter NR 428: Control of Nitrogen Compound Emissions* in the *Wisconsin Administrative Code*. These controls are projected to impact forty-six units: seventeen electric utility boilers and twenty-nine other units (See **Table 7**). The NOx controls should be fully implemented by 2007. Consequently, the NOx control factors for 2007 and 2012 are identical. In some cases, the control factors are larger than one as a result of the 1999 NOx emission rate being lower than the required emission rate in 2007 and 2012.

5.2 Area Sources

Growth factors for area sources are based on EGAS, gasoline sales, employment, linear miles of road, population, vehicle miles traveled and others. Forest wildfires and structure fires emissions are assumed to have no growth based on their unpredictable nature. On-site incineration emissions have been essentially eliminated due to the application of rules in *Chapter NR 445: Control of Hazardous Pollutants* of the *Wisconsin Administrative Code*. Consequently, no growth is anticipated. Open burning emissions are flatlined assuming conservatively that state, local and municipal burning ordinances will not become less restrictive in the future. Similarly, pesticide application is assumed to have no growth due to the continued general trend of urbanization in the ten county area. Emissions from railroad surface coating and industrial wastewater treatment facilities are assumed to be stable.

Conservatively, future controls are limited to stage 2 VOC controls. These growth factors and control factors are summarized in **Table 8**.

5.3 Non-Road Mobile Sources

For most categories, the same sources of growth factors and control factors are used as for the 1999 Redesignation Emission Inventory. With the exceptions of aircraft, commercial marine and locomotive categories, the non-road emission inventory from U.S. EPA's Non-Road Engines and Vehicles Emissions Study (NEVES) are grown and controlled from the 1990 Emission Inventory using growth factors derived from projected equipment populations in the NONROAD model and control factors based the Federal non-road engine standards from the Lorang memorandum (See **Table 3**). Emissions from aircraft and locomotive categories are grown using EGAS (See **Table 9**). Commercial marine emissions are assumed stable. No future controls are used for these three non-road categories.

5.4 Highway Mobile Sources

As in the inventories for 1990 and 1999, the projected 2007 and 2012 emissions were estimated for each of the five geographic areas using VMT as the activity factor and emission factors from the MOBILE5a model, with an off-model adjustment to account for the residual disbenefits from diesel "defeat devices". A second off-model adjustment was used to model the benefits of "Tier 2" standards for new automobiles and light trucks and low sulfur gasoline. The source of this second adjustments was the U.S. EPA's MOBILE5 Information Sheet #8, April, 2000.

5.4.1 Vehicle-Miles of Travel

Projected 2007 and 2012 summer weekday VMTs were provided by SEWRPC, disaggregated into 26 classes. Projected 2007 and 2012 annual average day VMTs for the other four counties were provided by WDOT. WDNR then adjusted these VMTs to summer weekday, using the same WDOT-provided adjustment factors used for the years 1990 and 1999. Again, the VMTs for these four counties are separated into the 12 HPMS functional classes. Projected summer weekday VMT growth from 1999 to 2007 was 15% for the six-county area, 16% for Sheboygan County, 18% for Manitowoc County, 10% for Kewaunee County and 12% for Door County. And, projected summer weekday VMT growth from 2007 to 2012 was 6% for the six-county area, 8% for Sheboygan County, 6% for Manitowoc County, 8% for Kewaunee County and 5% for Door County.

5.4.2 Emission Factors

As in the 1990 and 1999 Inventories, separate MOBILE5a emission factors were calculated for each of the 26 classes for the six-county area and for each of the 12 classes for each of the other four counties. Also, as in the 1990 and 1999 Inventories, updated NOx emission rates for heavy-duty diesel vehicles were input into the model in accordance with MOBILE5 Information Sheet #5, local data were used for the (projected) distribution of VMT by the eight vehicle types, and local data were used for the (projected) vehicle age distributions for the three light-duty gasoline-powered vehicle types.

An enhanced I/M program was modeled for the six-county area and Sheboygan County. On-board diagnostic system (OBD) tests were assumed for model years 1996 and newer. Following U.S. EPA guidance, full pressure test benefit was assumed for these model years whereas 40% of the pressure test benefit was assumed for the model years subject to the gas cap test without OBD (1971-1995). Phase 2 reformulated gasoline was modeled for the six-county area, with MOBILE5b used to determine the NOx benefit, as provided in the U.S. EPA's MOBILE5 Information Sheet #7, September 30, 1998. Also, benefits from national low emission vehicles (NLEV) were modeled as specified in the U.S. EPA's MOBILE5 Information Sheet #6, July, 1998, and, as mentioned above, benefits from "Tier 2/Low Sulfur" were modeled using the off-model adjustment specified in MOBILE5 Information Sheet #8. All of the controls mentioned in this paragraph were modeled for both projection years (2007 and 2012).

5.4.3 Emission Buffers

For the year 2007, the projections were increased by a buffer of 7.5% for VOC and 4.9% for NOx. For the year 2012, 7.5% buffers were used for both pollutants. These buffers were incorporated to minimize the prospect of a transportation conformity failure should unanticipated events lead to additional emissions beyond those projected here. The projected 2007 and 2012 emissions with these buffers do not exceed the highway mobile source emission levels used to demonstrate attainment of the one-hour ozone standard in Wisconsin's December, 2000, attainment demonstration submittal to U.S. EPA.

Detailed data for the highway mobile sector modeling for all inventory years are provided in **Appendix 4-3**. (Electronic or paper copies of this appendix can be obtained from Christopher Bovee, Wisconsin Department of Natural Resources, phone: 608/266-5542, e-mail: boveec@dnr.state.wi.us)

6. Emissions Summaries

Point source emissions are summarized in **Table 10** and **Table 11**. Area source NOx emissions are summarized in **Table 12**. Area source VOC emissions are summarized in **Table 13**. Non-road emissions are summarized in **Table 14**. All emissions are summarized by geographic area, year and source sector in **Table 15**.

7. *References*

1. Methodology to Calculate Nonroad Emission Inventories at the County and Sub-County Level: Final report, Energy and Environmental Analysis, Inc., Arlington, VA, July 1992 (Prepared for U.S. EPA).

Table 1: 1990 Area Source Categories Updated using the 1999 Redesignation Emission Inventory

Area Source Category	SCC	Pollutant	
		NOx	VOC
Aircraft refueling	2275900000	N	Y
Asphalt plants	2306010000	Y	Y
Bakeries	2302050000	N	Y
Commercial and consumer solvents	2460000000	N	Y
Commercial/Institutional fuel combustion	2103002000, 2103004000, 2103011000, 2103007000, 2103006000, 2103005000 and 2103008000	Y	Y
Industrial fuel combustion	2102002000, 2102004000, 2102007000, 2102006000, 2102005000 and 2102008000	Y	Y
Open burning - land clearing	2610000500	Y	Y
Open burning - residential MSW	2610030000	Y	Y
Open burning - yard waste - brush species unspecified	2610000400	Y	Y
Open burning - yard waste - leaf species unspecified	2610000100	Y	Y
Residential fuel combustion	2104001000, 2104004000, 2104011000, 2104007000, 2104006000 and 2104008000	Y	Y
Rock crushers	2305000000	N	Y
Structure fires	2810030000	Y	Y
Surface coating - architectural coatings	2401001000	N	Y
Surface coating - automobile refinishing	2401005000	N	Y
Surface coating - traffic markings	2401008000	N	Y

Table 2: 1999 Area Source Controls: Control Efficiency (CE), Rule Effectiveness (RE), Rule Penetration (RP) and Emission Reduction Summary

Category	SCC	CE	RE	RP	Emission reduction	Comments
Commercial and consumer solvents	2460000000				20%	Federal rule applies statewide. 9% VOC ROP Plan references a 3/22/95 guidance memorandum issued by OAQPS that specifies a 20% reduction.
Degreasing	2415000000				30%	From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.
Gasoline storage and transport - stage 1	2501060050	97.39%	80%	100%		Cntl. eff. calculated using vapor balance filling ef and the splash underground tank ef in Preferred and Alternative Methods for Estimating Air Emissions from Area Sources, Volume III, Chapter 11, Gasoline Marketing (Stage I and Stage II), January 2001.
Gasoline storage and transport - stage 2	2501060100					All three components are combined into emission factors.
Gasoline storage and transport - underground tank breathing	2501060201	100%	80%	95%		CE, RE and RP are from the 15% plan.
Municipal solid waste landfills	2620030000	If flares are used, 98%				Capture and control efficiencies at facility level. If flares are used, capture efficiency is 75%.
Surface coating - architectural coatings	2401001000				20%	Federal rule applies statewide. 9% VOC ROP Plan references OAR policy and guidance memorandum
Surface coating - automobile refinishing	2401005000	67.4%	100%	98%		From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.
Surface coating - traffic markings	2401008000	75.9%	100%	100%		9 - county AIM control (NR 422.17). Extended to Door county by contract.
Surface coating - wood furniture	2401020000	20.0%	100%	100%		From approved 9% Plan for Kewaunee, Manitowoc, Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Racine and Kenosha counties.

Table 3: 1999, 2007 and 2012 Non-Road Growth Factors based on the NONROAD model

Non-road group	SCC	1999 GF	2007 GF	2012 GF	
2-Stroke Recreational Vehicles	2260001000	1.0738229	1.1394432	1.180456	
2-Stroke Construction Equipment	2260002000	1.0246531	1.046567	1.0602632	
2-Stroke Industrial Equipment	2260003000	0.7112883	0.4546556	0.2942602	
2-Stroke Lawn & Garden Equipment	2260004000	1.2515957	1.4752364	1.6150118	
2-Stroke Farm Equipment	2260005000	1.1844674	1.3484383	1.4509202	
2-Stroke Light Commercial	2260006000	1.4781692	1.9032086	2.1688581	
2-Stroke Logging Equipment	2260007000	1.6163168	2.1641539	2.5065521	
2-Stroke Airport Service Equipment	2260008000	1.1194933	1.2257096	1.2920948	
2-Stroke Underground Mining Equipment	2260009000	1.2475858	1.4676622	1.6052099	
4-Stroke Recreational Vehicles	2265001000	1.0738229	1.1394432	1.180456	
4-Stroke Construction Equipment	2265002000	1.0246531	1.046567	1.0602632	
4-Stroke Industrial Equipment	2265003000	0.7112883	0.4546556	0.2942602	
4-Stroke Lawn & Garden Equipment	2265004000	1.2515957	1.4752364	1.6150118	
4-Stroke Farm Equipment	2265005000	1.1844674	1.3484383	1.4509202	
4-Stroke Light Commercial	2265006000	1.4781692	1.9032086	2.1688581	
4-Stroke Logging Equipment	2265007000	1.6163168	2.1641539	2.5065521	
4-Stroke Airport Service Equipment	2265008000	1.1194933	1.2257096	1.2920948	
4-Stroke Underground Mining Equipment	2265009000	1.2475858	1.4676622	1.6052099	
Diesel Recreational Vehicles	2270001000	1.3840722	1.7254697	1.9388431	
Diesel Construction Equipment	2270002000	1.3580211	1.676262	1.8751626	
Diesel Industrial Equipment	2270003000	1.3927244	1.7418127	1.9599929	
Diesel Lawn & Garden Equipment	Lawn mowers	2270004000	2.1033936	3.0841879	3.6971843
Diesel Farm Equipment		2270005000	1.3112378	1.5878937	1.7608036
Diesel Light Commercial		2270006000	1.5662491	2.0695817	2.3841645
Diesel Logging Equipment		2270007000	0.9277121	0.8634561	0.8232962
Diesel Airport Service Equipment		2270008000	2.0578446	2.998151	3.5858424
Diesel Underground Mining Equipment		2270009000	1.2475858	1.4676622	1.6052099
2-Stroke Recreational Marine		2282005000	1.0738229	1.1394432	1.180456
4-Stroke Recreational Marine		2282010000	1.0738229	1.1394432	1.180456
Diesel Recreational Marine		2282020000	1.3840722	1.7254697	1.9388431

Table 4: Non-EGU Point Source Groups for Calculating Growth Factors

Point source groups	Source Classification Codes
Boilers/Engines	10100101- 28888803
Chemical manufacturing	30100101 - 30199999, not 30190001 - 99 (see "In process fuel").
Food and agriculture	30200101 - 30299999, not 30290001 - 30291001(see "In process fuel").
Primary metals	30300001 - 30399999, not 30390001 - 24 (see "In process fuel").
Secondary metals	30400101 - 30499999, not 30400406 – 7 and 30490001 - 35 (see "In process fuel").
Mineral products	30500101 - 30599999, not 30500206 - 10, 30505020 – 3 and 30590001 - 23 (see "In process fuel").
In process fuel	39000189 - 39092056, 30190001 - 99, 30290001 - 30291001, 30390001 - 24, 30400406 - 7, 30490001 - 35, 30500206 - 10, 30505020 - 3, 30590001 - 23, 30600101 - 11, 30600901 - 5, 30609901 - 5, 30790001 - 23, 30890001 - 23, 30990001 - 23, 31000401 - 14, 31390001 - 3, 39900501 - 601, 39901001 - 39990023, 40201001 - 4, 40290011 - 23, 49090011 - 3, 49090021 - 3, 50190002 - 10, 50290002 - 10, 50390002 - 6 and 50390010
Organic solvents	30800108 - 10, 30800703, 31303502, 31401560 - 3, 31502001 - 3, 31612001 – 31613001, 33000297, 40100101 - 40188898, 40700401 - 49099999
Surface coating	40200101 - 40299999, not 40201001 – 4 and 40290011 - 23 (see "In process fuel").

Table 4: Non-EGU Point Source Groups for Calculating Growth Factors (cont.)

Point source groups	Source Classification Codes
Petroleum storage	40300101 - 40400498
Printing/publishing	40500101 - 40588805
Solid waste disposal	50100101 - 50390010
Other	All remaining SCCs between 10100101 and 68582599 inclusive.
Not classified	SCCs < 10100101 or > 68582599

Table 5: Point Source Growth Factors

Type of process	Pollutant	Growth factors	
		2007	2012
EGU	NOx	1.144	1.234
	VOC	1.144	1.234
Non-EGU, combustion	NOx	EGAS	EGAS
	VOC	EGAS	EGAS
Non-EGU, non-combustion	NOx	1.027	1.044
	VOC	1.159	1.258

Table 6: Point Source EGAS Growth Factors

Source Classification Code	Growth factors		Source Classification Code	Growth factors	
	2007	2012		2007	2012
10200104	1.034	1.033	20300101	1.005	0.989
10200205	1.034	1.033	20300201	1.021	1.039
10200401	1.069	1.098	20300909	1.066	1.096
10200404	1.069	1.098	20301001	1.055	1.082
10200501	1.153	1.216	20400302	0.962	1.136
10200502	1.153	1.216	20400401	0.962	1.136
10200503	1.153	1.216	20400402	0.962	1.136
10200504	1.153	1.216	30290003	0.981	0.999
10200601	1.100	1.130	30390003	1.008	0.990
10200602	1.100	1.130	30490003	1.084	1.148
10200603	1.100	1.130	30490031	1.164	1.262
10200701	1.242	1.252	30500206	1.374	1.463
10200799	1.100	1.132	30500207	1.115	1.182
10200903	1.174	1.269	30500208	0.000	0.000
10200906	1.174	1.269	30590003	1.011	1.048
10200911	1.174	1.269	30600105	1.374	1.463
10201002	1.075	1.132	30790013	0.912	0.869
10201301	1.174	1.269	30890003	1.084	1.148
10201302	1.163	1.186	30990003	1.167	1.301
10201402	1.100	1.132	31000404	1.011	1.048
10300501	1.005	0.989	31390003	1.167	1.301
10300601	1.021	1.039	39000501	0.000	0.000
10300602	1.021	1.039	39000589	1.153	1.216
10300603	1.021	1.039	39000599	1.153	1.216
10300701	1.141	1.199	39000602	0.808	0.739
10301002	1.055	1.082	39000603	1.084	1.148
10301302	1.018	1.014	39000605	1.008	0.990
10500106	1.100	1.130	39000689	1.100	1.130
10500110	1.075	1.132	39000699	1.100	1.130
10500206	1.021	1.039	39001089	1.075	1.132
10500209	1.141	1.199	39001099	1.075	1.132
20200102	1.153	1.216	39990003	1.084	1.148
20200202	1.100	1.130	39990004	1.108	1.188
20200301	1.185	1.263	40201001	1.100	1.130
20200401	1.153	1.216	40290023	1.100	1.130
20201001	1.075	1.132	49090013	1.100	1.130

Table 7: 2007 and 2012 Point Source NOx Control Factors from Chapter NR 428

Facility id	Facility name	County	Device id	Device type	NOx control factor
230006260	WIS ELECTRIC POWER PLEASANT PRAIRIE STATION	KENOSHA	B20	BOILER	0.340
230006260	WIS ELECTRIC POWER PLEASANT PRAIRIE STATION	KENOSHA	B21	BOILER	0.340
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P01	IC ENGINE	0.366
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P02	IC ENGINE	0.430
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P03	IC ENGINE	0.392
230094810	WIS ELECTRIC POWER CO – PARIS	KENOSHA	P04	IC ENGINE	0.477
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20a	BOILER	0.762
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20b	BOILER	0.762
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20c	BOILER	0.300
241007030	MILLER BREWING COMPANY MILWAUKEE PLANT	MILWAUKEE	B20d	BOILER	0.300
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B25	BOILER	1.105
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B26	BOILER	1.105
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B27	BOILER	0.231
241007690	WIS ELECTRIC POWER OAK CREEK STATION	MILWAUKEE	B28	BOILER	0.231
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B21	BOILER	0.425
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B22	BOILER	0.425
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B23	BOILER	0.443
241007800	WIS ELECTRIC POWER VALLEY STATION	MILWAUKEE	B24	BOILER	0.443
241019900	WIS DOA / UW-MILWAUKEE POWER PLANT	MILWAUKEE	B23	BOILER	0.300
241023640	WISCONSIN PAPERBOARD CORP	MILWAUKEE	B23	BOILER	0.643
241023750	PFISTER & VOGEL LEATHER	MILWAUKEE	B20	BOILER	0.300
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B21	BOILER	0.250
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B22	BOILER	0.250
241027050	MILWAUKEE COUNTY POWER PLANT	MILWAUKEE	B23	BOILER	0.250
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B21	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B22	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B23	BOILER	0.095
246004000	WIS ELECTRIC POWER PT WASHINGTON STATION	OZAUKEE	B24	BOILER	0.042
246044700	Charter Steel	OZAUKEE	P10	FURNACE	1.333
252005930	BALL-FOSTER GLASS CONTAINER CO., L.L.C.	RACINE	P30	FURNACE	0.650
252005930	BALL-FOSTER GLASS CONTAINER CO., L.L.C.	RACINE	P31	FURNACE	0.200
252011540	CASE CORPORATION – RACINE FOUNDRY PLANT	RACINE	B20	BOILER	0.300
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P30	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P31	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P32	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P33	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P34	TURBINE GENERATOR	0.800

Table 7: 2007 and 2012 Point Source NOx Control Factors from Chapter NR 428 (cont.)

Facility id	Facility name	County	Device id	Device type	NOx control factor
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P35	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P36	TURBINE GENERATOR	0.800
267006190	WIS ELECTRIC POWER GERMANTOWN STATION	WASHINGTON	P37	TURBINE GENERATOR	0.800
436034390	ROCKWELL LIME COMPANY	MANITOWOC	P36	KILN	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B25	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B26	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B27	BOILER	0.250
436035930	MANITOWOC PUBLIC UTILITIES	MANITOWOC	B28	BOILER	0.346
460032870	KOHLER CO-METALS PROCESSING COMPLEX	SHEBOYGAN	B10	BOILER	0.300
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B23	BOILER	0.674
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B24	BOILER	0.733
460033090	WIS PWR & LIGHT EDGEWATER GEN STATION	SHEBOYGAN	B25	BOILER	1.042
460040460	ANR PIPELINE CO.(KEWASKUM COMP. STATION)	SHEBOYGAN	P06	IC ENGINE	2.196

Table 8: Area Source Growth Factors and Control Factors

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors			Overall control efficiencies	
					(%/year)	2007	2012	2007	2012
Aircraft refueling	2275900000	VOC	ten counties*	EGAS	-	1.304	1.440	0	0
Asphalt paving	2461020000	VOC	ten counties*	LIN_MILES	-	1.046	1.076	0	0
Asphalt plants	2306010000	NOx/VOC	ten counties*	LIN_MILES	-	1.046	1.076	0	0
Bakeries	2302050000	VOC	ten counties*	EGAS	-	1.160	1.244	0	0
Commercial and consumer solvents	2460000000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Commercial/Institutional fuel combustion - distillate oil	2103004000	NOx/VOC	ten counties*	EGAS	-	1.005	0.989	0	0
Commercial/Institutional fuel combustion - kerosene	2103011000	NOx/VOC	ten counties*	EGAS	-	1.066	1.096	0	0
Commercial/Institutional fuel combustion - LPG	2103007000	NOx/VOC	ten counties*	EGAS	-	1.055	1.082	0	0
Commercial/Institutional fuel combustion - natural gas	2103006000	NOx/VOC	ten counties*	EGAS	-	1.021	1.039	0	0
Commercial/Institutional fuel combustion - residual oil	2103005000	NOx/VOC	ten counties*	EGAS	-	1.112	1.155	0	0
Commercial/Institutional fuel combustion - wood	2103008000	NOx/VOC	ten counties*	EGAS	-	1.141	1.199	0	0
Degreasing	2415000000	VOC	ten counties*	EGAS	-	1.209	1.335	0	0
Dry cleaning	2420000000	VOC	ten counties*	POP	-	1.045	1.066	0	0
Forest wildfires	2810001000	NOx/VOC	ten counties*	-	-	1.000	1.000	0	0
Gasoline storage and transport - stage 1	2501060050	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0
Gasoline storage and transport - stage 2	2501060100	VOC	Door	GAS/STG2	-	0.531	0.292	-	-
Gasoline storage and transport - stage 2	2501060100	VOC	three counties**	GAS/STG2	-	0.631	0.441	-	-
Gasoline storage and transport - stage 2	2501060100	VOC	six counties***	GAS/STG2	-	0.542	0.377	-	-
Gasoline storage and transport - tank trucks	2505030120	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0
Gasoline storage and transport - underground tank breathing	2501060201	VOC	ten counties*	GAS	1.500%	1.120	1.195	0	0

Table 8: Area Source Growth Factors and Control Factors (cont.)

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors		Overall control efficiencies	
					(%/year)	2007	2012	2007
Graphic arts solvents	2425000000	VOC	ten counties*	POP	-	1.045	1.066	0
Industrial fuel combustion – bituminous/subbituminous coal	2102002000	NOx/VOC	ten counties*	EGAS	-	1.034	1.033	0
Industrial fuel combustion – distillate oil	2102004000	NOx/VOC	ten counties*	EGAS	-	1.153	1.216	0
Industrial fuel combustion - kerosene	2102011000	NOx/VOC	ten counties*	EGAS	-	1.163	1.186	0
Industrial fuel combustion – LPG	2102007000	NOx/VOC	ten counties*	EGAS	-	1.075	1.132	0
Industrial fuel combustion – natural gas	2102006000	NOx/VOC	ten counties*	EGAS	-	1.100	1.130	0
Industrial fuel combustion – wood	2102008000	NOx/VOC	ten counties*	EGAS	-	1.174	1.269	0
IWTFs	2630010000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
MSWLs	2620030000	NOx/VOC	ten counties*	POP	-	1.045	1.066	0
On-site incineration	2601000000	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Open burning – land clearing	2610000500	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Open burning – residential MSW	2610030000	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Open burning – yard waste – brush species unspecified	2610000400	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Open burning – yard waste – leaf species unspecified	2610000100	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Pesticide application	2461850000	VOC	ten counties*	-	-	1.000	1.000	0
POTWs	2630020000	VOC	ten counties*	POP	-	1.045	1.066	0
Residential fuel combustion – anthracite coal	2104001000	NOx/VOC	ten counties*	EGAS	-	0.908	0.869	0
Residential fuel combustion – distillate oil	2104004000	NOx/VOC	ten counties*	EGAS	-	0.778	0.708	0
Residential fuel combustion – kerosene	2104011000	NOx/VOC	ten counties*	EGAS	-	0.973	0.971	0
Residential fuel combustion – LPG	2104007000	NOx/VOC	ten counties*	EGAS	-	1.059	1.044	0
Residential fuel combustion – natural gas	2104006000	NOx/VOC	ten counties*	EGAS	-	0.976	0.982	0
Residential fuel combustion – wood	2104008000	NOx/VOC	ten counties*	EGAS	-	1.010	1.025	0
Rock crushers	2305000000	NOx/VOC	ten counties*	LIN_MILES	-	1.046	1.076	0
Structure fires	2810030000	NOx/VOC	ten counties*	-	-	1.000	1.000	0
Surface coating – architectural coatings	2401001000	VOC	ten counties*	POP	-	1.045	1.066	0
Surface coating – automobile refinishing	2401005000	VOC	six counties***	VMT	-	1.145	1.217	0
Surface coating – automobile refinishing	2401005000	VOC	Sheboygan	VMT	-	1.158	1.253	0
Surface coating – automobile refinishing	2401005000	VOC	Manitowoc	VMT	-	1.176	1.242	0
Surface coating – automobile refinishing	2401005000	VOC	Kewaunee	VMT	-	1.102	1.185	0
Surface coating – automobile refinishing	2401005000	VOC	Door	VMT	-	1.119	1.180	0
Surface coating – electronic and other electrical	2401065000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – factory finished wood	2401015000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – industrial maintenance coatings	2401100000	VOC	ten counties*	POP	-	1.045	1.066	0
Surface coating – large appliances	2401060000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – machinery and equipment	2401055000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – marine	2401080000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – metal cans	2401040000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – metal furniture	2401025000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – misc. finished metals	2401050000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0
Surface coating – misc. manufacturing coatings	2401090000	VOC	ten counties*	POP	-	1.045	1.066	0

Table 8: Area Source Growth Factors and Control Factors (cont.)

Category	SCC	Pollutants	Counties	Growth factors source	Growth factors		Overall control efficiencies	
					(%/year)	2007	2012	2007
Surface coating – railroad	2401085000	VOC	ten counties*	-	-	1.000	1.000	0 0
Surface coating - special purpose coatings	2401200000	VOC	ten counties*	POP	-	1.045	1.066	0 0
Surface coating - traffic markings	2401008000	VOC	ten counties*	POP	-	1.045	1.066	0 0
Surface coating - wood furniture	2401020000	VOC	ten counties*	IND_EMP	-0.380%	0.970	0.951	0 0
TSDFs	2640000000	VOC	ten counties*	-	-	1.000	1.000	0 0

* Door, Kewaunee, Manitowoc, Sheboygan, Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties
** Kewaunee, Manitowoc and Sheboygan counties.
*** Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha counties.

Growth factor sources
EGAS: Economic Growth Analysis System.
GAS: Projected statewide gas sales growth.
GAS/STG2: The growth and control factors are combined into a single number using projected gasoline sales and projected emission factors.
IND_EMP: Statewide industrial employment.
LIN_MILES: Linear miles growth.
POP: Population growth for the ten county area.
VMT: Vehicle miles traveled.

Table 9: Aircraft, Commercial Marine and Locomotive Growth Factors

Non-road category	SCC	2007 GF	2012 GF
Aircraft	2275000000	1.442	1.593
Commercial Marine	2280000000	1.000	1.000
Locomotive	2285002000	0.852	0.938

Table 10: NOx Point Source Emissions

NOx Emissions (All emission are in tons per ozone season day.)																								
Group	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six Counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
Boilers / Engines	-	0.001	0.001	0.001	-	0.027	0.030	0.031	-	2.686	2.356	2.524	-	47.245	24.612	26.543	-	116.709	97.651	105.189	-	166.668	124.650	134.288
Chemical Mfg	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.006	0.006	-	0.000	0.000	0.000	-	0.006	0.006	0.006
Food & Ag In Process Fuel	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.004	0.004	0.004	-	0.000	0.000	0.000	-	0.041	0.041	0.043	-	0.045	0.045	0.047
Mineral Products	-	0.006	0.006	0.006	-	0.005	0.005	0.005	-	0.479	0.492	0.500	-	0.018	0.018	0.019	-	1.210	1.243	1.265	-	1.718	1.764	1.795
Not Classified	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Organic Solvents	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Other	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.023	0.023	0.024	-	0.000	0.000	0.000	-	0.103	0.105	0.107	-	0.126	0.128	0.131
Petroleum Storage	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Primary Metals	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.001	0.001	0.001	-	0.000	0.000	0.000	-	0.004	0.004	0.004	-	0.005	0.005	0.005
Printing / Publishing	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.008	0.009	0.009	-	0.008	0.009	0.009
Secondary Metals	-	0.002	0.003	0.003	-	0.000	0.000	0.000	-	0.019	0.019	0.020	-	0.000	0.000	0.000	-	0.594	0.611	0.620	-	0.615	0.633	0.643
Solid Waste Disposal	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.007	0.007	0.008	-	0.000	0.000	0.000	-	0.039	0.039	0.040	-	0.046	0.046	0.048
Surface Coating	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.006	0.006	-	0.006	0.006	0.006
Totals	0.00	0.02	0.02	0.02	0.03	0.04	0.04	0.04	3.20	3.39	3.08	3.27	56.35	47.65	24.99	26.93	130.51	120.85	102.01	109.65	190.09	171.94	130.13	139.91

Table 11: VOC Point Source Emissions

VOC Emissions (All emission are in tons per ozone season day.)																								
Group	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six Counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
Boilers / Engines	-	0.000	0.000	0.000	-	0.002	0.002	0.002	-	0.041	0.046	0.049	-	0.267	0.297	0.324	-	1.205	1.355	1.464	-	1.515	1.700	1.839
Chemical Mfg	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.011	0.012	0.013	-	0.022	0.026	0.028	-	2.143	2.484	2.695	-	2.176	2.522	2.736
Food & Ag	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.112	0.129	0.140	-	0.000	0.000	0.000	-	1.280	1.485	1.610	-	1.392	1.614	1.750
In Process Fuel	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.006	0.007	0.007	-	0.015	0.016	0.017	-	0.184	0.200	0.207	-	0.205	0.223	0.231
Mineral Products	-	0.000	0.000	0.000	-	0.004	0.005	0.005	-	0.011	0.012	0.013	-	0.016	0.019	0.021	-	0.204	0.236	0.256	-	0.235	0.272	0.295
Not Classified	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000
Organic Solvents	-	0.000	0.000	0.000	-	0.013	0.016	0.017	-	0.337	0.391	0.424	-	0.074	0.086	0.093	-	1.223	1.418	1.538	-	1.647	1.911	2.072
Other	-	0.000	0.000	0.000	-	0.012	0.014	0.015	-	0.120	0.139	0.151	-	0.282	0.326	0.354	-	1.349	1.563	1.698	-	1.763	2.042	2.218
Petroleum Storage	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.296	0.343	0.372	-	0.296	0.343	0.372
Primary Metals	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.058	0.068	0.073	-	0.000	0.000	0.000	-	0.091	0.107	0.116	-	0.149	0.175	0.189
Printing / Publishing	-	0.000	0.000	0.000	-	0.095	0.110	0.120	-	0.033	0.039	0.042	-	0.097	0.113	0.122	-	2.104	2.440	2.646	-	2.329	2.702	2.930
Secondary Metals	-	0.004	0.004	0.005	-	0.000	0.000	0.000	-	0.201	0.233	0.253	-	0.464	0.538	0.584	-	1.748	2.027	2.199	-	2.417	2.802	3.041
Solid Waste Disposal	-	0.000	0.000	0.000	-	0.000	0.000	0.000	-	0.002	0.002	0.002	-	0.000	0.000	0.000	-	0.075	0.087	0.094	-	0.077	0.089	0.096
Surface Coating	-	0.139	0.161	0.175	-	0.461	0.534	0.580	-	0.992	1.149	1.247	-	1.686	1.954	2.121	-	7.921	9.180	9.964	-	11.199	12.978	14.087
Totals	0.00	0.14	0.17	0.18	0.86	0.59	0.68	0.74	1.16	1.92	2.23	2.41	6.74	2.92	3.38	3.66	40.38	19.82	22.93	24.86	49.14	25.40	29.37	31.86

Table 12: Area Source NOx Emissions (tons per ozone season day)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals							
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2102002000	0.040	0.053	0.055	0.055	0.021	0.053	0.055	0.055	0.143	0.320	0.331	0.330	0.208	0.665	0.688	0.687	2.561	5.351	5.323	5.526	2.973	6.442	6.451	6.652				
2102004000	0.014	0.010	0.011	0.012	0.007	0.009	0.011	0.012	0.045	0.054	0.062	0.066	0.090	0.114	0.131	0.138	0.775	0.885	0.999	1.076	0.931	1.072	1.214	1.303				
2102005000	0.006	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.022	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.367	0.000	0.018	0.000	0.429	0.000	0.018	0.000				
2102006000	0.092	0.020	0.022	0.023	0.024	0.009	0.010	0.010	0.285	0.070	0.077	0.079	0.391	0.183	0.202	0.207	4.599	1.722	2.016	1.945	5.391	2.004	2.327	2.264				
2102007000	0.006	0.003	0.003	0.004	0.003	0.003	0.003	0.004	0.024	0.019	0.020	0.022	0.042	0.039	0.042	0.044	0.383	0.316	0.339	0.357	0.458	0.380	0.408	0.430				
2102008000	0.010	0.006	0.007	0.008	0.004	0.005	0.006	0.006	0.034	0.036	0.043	0.046	0.061	0.073	0.086	0.093	0.613	0.602	0.697	0.764	0.722	0.722	0.839	0.917				
2102011000	0.061	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.227	0.000	0.000	0.000	0.406	0.000	0.000	0.000	3.911	0.003	0.003	0.003	4.636	0.003	0.004	0.004				
2103002000	0.009	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.020	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.683	0.000	0.035	0.000	0.745	0.000	0.035	0.000				
2103004000	0.008	0.005	0.005	0.005	0.003	0.002	0.002	0.002	0.018	0.010	0.010	0.010	0.027	0.016	0.016	0.016	0.609	0.358	0.371	0.354	0.665	0.391	0.405	0.387				
2103005000	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.053	0.039	0.044	0.045	0.058	0.043	0.048	0.049				
2103006000	0.031	0.039	0.040	0.040	0.013	0.014	0.014	0.014	0.074	0.079	0.081	0.082	0.109	0.125	0.127	0.130	2.500	2.723	2.764	2.830	2.728	2.979	3.025	3.096				
2103007000	0.003	0.003	0.004	0.004	0.001	0.001	0.001	0.001	0.006	0.007	0.007	0.007	0.009	0.011	0.012	0.012	0.208	0.249	0.260	0.269	0.227	0.272	0.284	0.294				
2103008000	0.016	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.057	0.000	0.000	0.000	1.294	0.000	0.074	0.000	1.415	0.000	0.074	0.000				
2103011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.002	0.002	0.002	0.004	0.002	0.002	0.002				
2104001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.008	0.008	0.006	0.007	0.009	0.009	0.007	0.008				
2104004000	0.008	0.005	0.004	0.003	0.005	0.003	0.003	0.002	0.024	0.014	0.011	0.010	0.030	0.019	0.015	0.014	0.508	0.318	0.257	0.225	0.575	0.361	0.289	0.255				
2104006000	0.024	0.026	0.025	0.026	0.016	0.019	0.018	0.018	0.073	0.078	0.076	0.076	0.094	0.105	0.102	0.103	1.577	1.718	1.653	1.687	1.785	1.946	1.875	1.910				
2104007000	0.005	0.006	0.006	0.006	0.004	0.004	0.005	0.004	0.015	0.018	0.019	0.018	0.020	0.024	0.025	0.025	0.332	0.392	0.407	0.409	0.376	0.444	0.462	0.463				
2104008000	0.003	0.004	0.004	0.004	0.002	0.002	0.002	0.002	0.004	0.005	0.005	0.005	0.003	0.004	0.004	0.004	0.013	0.014	0.015	0.025	0.028	0.029	0.029	0.029				
2104011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.007	0.006	0.007	0.008	0.007	0.008					
2305000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
2306010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
2601000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230	0.000	0.030	0.000	0.230	0.000	0.030	0.000				
2610000100	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007				
2610004000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.007	0.007	0.007	0.007				
2610005000	0.026	0.026	0.026	0.026	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.006	0.006	0.006	0.006	0.067	0.067	0.067	0.067	0.067	0.102	0.102	0.102	0.102				
2610030000	0.024	0.026	0.026	0.026	0.012	0.020	0.020	0.020	0.036	0.049	0.049	0.049	0.048	0.058	0.058	0.058	0.252	0.209	0.222	0.209	0.372	0.363	0.375	0.363				
2810030000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.006	0.006	0.015	0.007	0.007	0.007	0.007				
2620030000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.447	0.340	0.477	0.000	0.448	0.340	0.477				
2810001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Totals	0.39	0.23	0.24	0.24	0.16	0.15	0.15	0.15	1.10	0.77	0.80	0.81	1.67	1.45	1.52	1.54	21.57	15.44	15.96	16.29	24.89	18.04	18.67	19.03				

Table 13: Area Source VOC Emissions (tons per ozone season day)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2102002000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.005	0.011	0.012	0.012	0.006	0.014	0.014	0.014	
2102004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.008	0.009	0.010	0.011	0.010	0.011	0.012	0.013	
2102005000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.000	
2102006000	0.005	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.016	0.004	0.004	0.004	0.021	0.010	0.011	0.011	0.253	0.095	0.104	0.107	0.297	0.110	0.121	0.125
2102007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.005	0.004	0.004	0.004	0.005	0.005	0.005	0.005	
2102008000	0.009	0.006	0.007	0.007	0.004	0.005	0.005	0.006	0.032	0.034	0.040	0.043	0.057	0.069	0.080	0.087	0.572	0.562	0.659	0.713	0.674	0.674	0.791	0.856
2102011000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.003	0.000	0.000	0.033	0.000	0.000	0.000	0.039	0.000	0.000	0.000	
2103002000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	
2103004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.006	0.006	0.011	0.007	0.007	0.007	0.007	
2103005000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
2103006000	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.004	0.004	0.004	0.004	0.006	0.007	0.007	0.007	0.133	0.144	0.147	0.150	0.145	0.158	0.161	0.164
2103007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.008	0.009	0.009	0.007	0.009	0.009	0.010	0.010	
2103008000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.033	0.000	0.000	0.000	0.036	0.000	0.000	0.000	
2103011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2104001000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2104004000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.001	0.020	0.013	0.010	0.009	0.023	0.014	0.011	0.010	
2104006000	0.000	0.002	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.005	0.004	0.004	0.000	0.006	0.006	0.006	0.101	0.098	0.099	0.004	0.114	0.111	0.112	0.112
2104007000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.007	0.008	0.009	0.009	0.008	0.010	0.010	0.010	
2104008000	0.062	0.075	0.075	0.076	0.031	0.033	0.033	0.034	0.078	0.091	0.092	0.093	0.059	0.066	0.067	0.068	0.239	0.273	0.276	0.280	0.469	0.539	0.544	0.552
2104011000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2275900000	0.001	0.003	0.003	0.004	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.004	0.005	0.005	0.039	0.032	0.042	0.046	0.042	0.038	0.050	0.055
2302050000	0.012	0.013	0.015	0.017	0.009	0.010	0.011	0.012	0.039	0.040	0.046	0.049	0.050	0.054	0.062	0.067	0.832	0.808	0.937	1.004	0.942	0.924	1.072	1.149
2305000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2306010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2401001000	0.145	0.138	0.145	0.148	0.107	0.100	0.105	0.107	0.455	0.413	0.431	0.440	0.588	0.558	0.583	0.595	9.820	9.131	9.542	9.734	11.115	10.341	10.806	11.024
2401005000	0.000	0.034	0.038	0.040	0.000	0.012	0.013	0.014	1.054	0.150	0.176	0.186	0.391	0.154	0.179	0.194	8.280	4.307	5.663	5.243	9.725	4.657	6.069	5.677
2401008000	0.047	0.017	0.018	0.019	0.035	0.013	0.013	0.013	0.148	0.052	0.054	0.055	0.191	0.070	0.073	0.075	3.197	1.148	1.200	1.224	3.618	1.300	1.359	1.386
2401015000	0.000	0.000	0.000	0.000	0.100	0.056	0.054	0.053	0.060	0.021	0.021	0.020	0.100	0.031	0.030	0.029	0.830	0.127	0.123	0.120	1.090	0.235	0.228	0.223
2401020000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.220	0.085	0.082	0.081	0.740	0.168	0.163	0.159	1.170	0.181	0.176	0.172	2.130	0.434	0.421	0.413
2401025000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.030	0.003	0.003	0.002	0.300	0.005	0.005	0.005	0.000	0.006	0.006	0.005	0.060	0.013	0.013	0.013
2401040000	0.000	0.014	0.014	0.014	0.000	0.010	0.010	0.010	0.000	0.134	0.130	0.127	0.000	0.144	0.140	0.137	3.860	1.136	1.102	1.080	3.860	1.440	1.396	1.369
2401050000	0.190	0.064	0.062	0.061	0.080	0.046	0.045	0.044	1.170	0.594	0.576	0.565	1.460	0.641	0.621	0.609	11.880	5.043	4.890	4.794	14.780	6.389	6.195	6.073
2401055000	0.030	0.043	0.041	0.041	0.020	0.028	0.027	0.027	0.310	0.256	0.248	0.244	0.240	0.282	0.274	0.268	5.980	3.933	3.814	3.739	6.580	4.543	4.404	4.318
2401060000	0.000	0.015	0.014	0.016	0.000	0.000	0.000	0.000	0.050	0.015	0.015	0.014	0.000	0.015	0.014	0.014	1.200	0.411	0.398	0.390	1.250	0.455	0.441	0.435
2401065000	0.150	0.115	0.112	0.136	0.000	0.000	0.000	0.000	0.250	0.117	0.113	0.111	0.710	0.115	0.112	0.110	7.970	2.929	2.840	2.784	9.080	3.276	3.177	3.141
2401080000	0.740	0.267	0.259	0.254	0.000	0.000	0.000	0.000	0.090	0.006	0.006	0.006	0.000	0.013	0.012	0.012	0.000	0.321	0.311	0.305	0.830	0.607	0.588	0.577
2401090000	0.030	0.032	0.033	0.030	0.020	0.023	0.024	0.025	0.090	0.095	0.100	0.102	0.120	0.129	0.135	0.137	2.000	2.110	2.205	2.249	2.260	2.390	2.497	2.544
2401100000	0.040	0.034	0.036	0.032	0.030	0.025	0.026	0.026	0.120	0.102	0.106	0.108	0.160	0.138	0.144	0.147	2.680	2.251	2.352	2.399	3.030	2.549	2.664	2.713
2401200000	0.040	0.034	0.036	0.034	0.030	0.025	0.026	0.026	0.120	0.102	0.106	0.108	0.160	0.138	0.144	0.147	2.680	2.251	2.352	2.399	3.030	2.549	2.664	2.715
2415000000	0.250	0.245	0.296	0.327	0.060	0.077	0.093	0.102	0.850	0.764	0.923	1.020	0.710	0.983	1.188	1.313	15.000	16.969	20.510	22.661	16.870	19.037	23.010	25.423
2420000000	0.050	0.031	0.032	0.033	0.040	0.000	0.000	0.000																

Table 13: Area Source VOC Emissions (tons per ozone season day) (cont.)

SCC	Door county				Kewaunee county				Manitowoc county				Sheboygan county				Six counties				Totals			
	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012	1990	1999	2007	2012
2501060100	0.270	0.165	0.088	0.048	0.130	0.031	0.019	0.014	0.480	0.129	0.081	0.057	0.480	0.163	0.103	0.072	10.570	2.218	1.203	0.837	11.930	2.706	1.494	1.027
2501060201	0.030	0.011	0.013	0.014	0.010	0.007	0.008	0.008	0.050	0.030	0.033	0.035	0.050	0.037	0.042	0.045	1.090	0.553	0.620	0.661	1.230	0.639	0.716	0.764
2505030120	0.000	0.002	0.002	0.002	0.000	0.001	0.001	0.001	0.010	0.005	0.006	0.006	0.010	0.006	0.007	0.008	0.190	0.094	0.105	0.112	0.210	0.108	0.121	0.129
2601000000	0.050	0.000	0.000	0.000	0.030	0.000	0.000	0.000	0.160	0.000	0.000	0.000	0.240	0.000	0.000	0.000	3.160	0.000	0.000	0.000	3.640	0.000	0.000	0.000
2610000100	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.031	0.031	0.031	0.031	0.050	0.050	0.050	0.050
2610000400	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.021	0.021	0.021	0.021	0.034	0.034	0.034	0.034
2610000500	0.059	0.059	0.059	0.059	0.002	0.002	0.002	0.002	0.007	0.007	0.007	0.007	0.013	0.013	0.013	0.013	0.154	0.154	0.154	0.154	0.235	0.235	0.235	0.235
2610030000	0.095	0.132	0.132	0.132	0.079	0.101	0.101	0.101	0.189	0.247	0.247	0.247	0.221	0.288	0.288	0.288	1.168	1.044	1.044	1.044	1.753	1.813	1.813	1.813
2630020000	0.030	0.017	0.017	0.018	0.020	0.012	0.013	0.013	0.190	0.498	0.520	0.530	0.210	0.145	0.152	0.155	3.420	2.602	2.719	2.774	3.870	3.274	3.421	3.490
2640000000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.115	0.115	0.115	0.055	0.115	0.115	0.115
2810030000	0.001	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.114	0.048	0.048	0.048	0.119	0.055	0.055	0.055
2401085000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.002	0.002	0.002	0.400	0.057	0.057	0.057	0.400	0.060	0.060	0.060
2461020000	2.370	0.276	0.289	0.297	0.030	0.015	0.016	0.017	0.280	0.344	0.360	0.370	0.000	0.294	0.307	0.316	0.270	1.670	1.747	1.798	2.950	2.599	2.720	2.798
2620030000	0.010	0.003	0.003	0.003	0.010	0.002	0.002	0.002	0.030	0.001	0.001	0.001	0.020	0.002	0.002	0.002	0.320	0.048	0.050	0.051	0.390	0.055	0.057	0.058
2630010000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.013	0.012	0.012	0.418	0.673	0.652	0.639	0.420	0.686	0.665	0.652
2810001000	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.000	0.000	0.000	
Totals	5.70	2.39	2.40	2.43	1.79	1.13	1.16	1.18	8.85	5.87	6.12	6.26	9.73	6.80	7.11	7.28	132.22	95.03	101.33	103.86	158.29	111.21	118.12	121.02

Table 14: Non-Road Emissions (tons per ozone season day)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Door	2275000000	Aircraft	0.010	0.030	0.006	0.010	0.008	0.014	0.008	0.015
Door	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2282000000	Recreational Marine	0.263	3.650	0.282	3.915	0.319	3.643	0.342	3.466
Door	2285002000	Locomotives	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2260001000	Recreational Equipment	0.000	0.012	0.000	0.011	0.000	0.008	0.000	0.007
Door	2260002000	Construction and Mining Equipment	0.000	0.003	0.000	0.002	0.000	0.001	0.000	0.000
Door	2260003000	Industrial Equipment	0.021	0.010	0.015	0.007	0.010	0.004	0.006	0.003
Door	2260004000	Lawn and Garden Equipment	0.000	0.140	0.000	0.135	0.000	0.052	0.000	0.023
Door	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2260006000	Commercial Equipment	0.000	0.015	0.000	0.017	0.000	0.007	0.000	0.003
Door	2260007000	Logging Equipment	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.000
Door	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2265001000	Recreational Equipment	0.000	0.007	0.000	0.007	0.000	0.005	0.000	0.005
Door	2265002000	Construction and Mining Equipment	0.000	0.004	0.000	0.003	0.000	0.002	0.000	0.001
Door	2265003000	Industrial Equipment	0.007	0.018	0.005	0.013	0.003	0.008	0.002	0.005
Door	2265004000	Lawn and Garden Equipment	0.002	0.143	0.004	0.139	0.006	0.060	0.006	0.031
Door	2265005000	Agricultural Equipment	0.000	0.005	0.000	0.005	0.000	0.003	0.000	0.002
Door	2265006000	Commercial Equipment	0.000	0.027	0.001	0.030	0.002	0.013	0.002	0.006
Door	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2265008000	Airport Ground Support Equipment	0.001	0.002	0.001	0.003	0.001	0.003	0.001	0.003
Door	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2270002000	Construction and Mining Equipment	0.261	0.031	0.327	0.043	0.323	0.053	0.325	0.059
Door	2270003000	Industrial Equipment	0.044	0.005	0.057	0.007	0.057	0.009	0.058	0.010
Door	2270004000	Lawn and Garden Equipment	0.002	0.000	0.003	0.000	0.004	0.000	0.005	0.000
Door	2270005000	Agricultural Equipment	0.185	0.037	0.223	0.048	0.213	0.058	0.212	0.064
Door	2270006000	Commercial Equipment	0.004	0.000	0.007	0.001	0.009	0.001	0.010	0.001
Door	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Door	2270008000	Airport Ground Support Equipment	0.044	0.005	0.084	0.011	0.097	0.015	0.104	0.019
Kewaunee	2275000000	Aircraft	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2282000000	Recreational Marine	0.026	0.411	0.028	0.440	0.033	0.387	0.036	0.352
Kewaunee	2285002000	Locomotives	0.030	0.010	0.018	0.001	0.016	0.001	0.018	0.001
Kewaunee	2260001000	Recreational Equipment	0.000	0.009	0.000	0.008	0.000	0.006	0.000	0.005
Kewaunee	2260002000	Construction and Mining Equipment	0.000	0.002	0.000	0.002	0.000	0.001	0.000	0.000
Kewaunee	2260003000	Industrial Equipment	0.016	0.007	0.011	0.005	0.007	0.003	0.005	0.002
Kewaunee	2260004000	Lawn and Garden Equipment	0.000	0.103	0.000	0.100	0.000	0.039	0.000	0.017
Kewaunee	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2260006000	Commercial Equipment	0.000	0.011	0.000	0.013	0.000	0.005	0.000	0.002
Kewaunee	2260007000	Logging Equipment	0.000	0.001	0.000	0.002	0.000	0.001	0.000	0.000
Kewaunee	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2265001000	Recreational Equipment	0.000	0.005	0.000	0.005	0.000	0.004	0.000	0.004
Kewaunee	2265002000	Construction and Mining Equipment	0.000	0.003	0.000	0.002	0.000	0.001	0.000	0.001
Kewaunee	2265003000	Industrial Equipment	0.005	0.013	0.003	0.009	0.002	0.006	0.001	0.004
Kewaunee	2265004000	Lawn and Garden Equipment	0.001	0.105	0.003	0.102	0.004	0.044	0.004	0.023
Kewaunee	2265005000	Agricultural Equipment	0.000	0.004	0.000	0.004	0.000	0.002	0.000	0.001
Kewaunee	2265006000	Commercial Equipment	0.000	0.020	0.001	0.022	0.001	0.009	0.001	0.004
Kewaunee	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2265008000	Airport Ground Support Equipment	0.001	0.002	0.001	0.002	0.001	0.002	0.001	0.002
Kewaunee	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2270002000	Construction and Mining Equipment	0.192	0.023	0.241	0.031	0.237	0.039	0.239	0.043
Kewaunee	2270003000	Industrial Equipment	0.033	0.004	0.042	0.005	0.042	0.006	0.043	0.007
Kewaunee	2270004000	Lawn and Garden Equipment	0.001	0.000	0.002	0.000	0.003	0.000	0.004	0.000
Kewaunee	2270005000	Agricultural Equipment	0.136	0.027	0.164	0.035	0.157	0.043	0.156	0.047
Kewaunee	2270006000	Commercial Equipment	0.003	0.000	0.005	0.000	0.006	0.001	0.007	0.001
Kewaunee	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Kewaunee	2270008000	Airport Ground Support Equipment	0.033	0.004	0.062	0.008	0.071	0.011	0.076	0.014
Manitowoc	2275000000	Aircraft	0.000	0.010	0.000	0.000	0.000	0.001	0.000	0.001
Manitowoc	2280000000	Commercial Marine	0.000	0.000	0.000	0.046	0.000	0.046	0.000	0.046

Table 14: Non-Road Emissions (tons per ozone season day) (cont.)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Manitowoc	2282000000	Recreational Marine	0.054	0.767	0.058	0.823	0.066	0.749	0.071	0.701
Manitowoc	2285002000	Locomotives	0.070	0.020	0.089	0.003	0.079	0.003	0.087	0.003
Manitowoc	2260001000	Recreational Equipment	0.000	0.038	0.000	0.035	0.000	0.024	0.000	0.021
Manitowoc	2260002000	Construction and Mining Equipment	0.000	0.009	0.000	0.007	0.000	0.002	0.000	0.001
Manitowoc	2260003000	Industrial Equipment	0.066	0.031	0.047	0.022	0.030	0.013	0.020	0.008
Manitowoc	2260004000	Lawn and Garden Equipment	0.000	0.439	0.000	0.424	0.000	0.164	0.000	0.071
Manitowoc	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2260006000	Commercial Equipment	0.000	0.047	0.000	0.054	0.000	0.023	0.000	0.010
Manitowoc	2260007000	Logging Equipment	0.000	0.006	0.000	0.008	0.000	0.003	0.000	0.002
Manitowoc	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2265001000	Recreational Equipment	0.000	0.022	0.000	0.021	0.000	0.017	0.000	0.016
Manitowoc	2265002000	Construction and Mining Equipment	0.000	0.012	0.000	0.010	0.000	0.005	0.000	0.004
Manitowoc	2265003000	Industrial Equipment	0.021	0.057	0.015	0.040	0.010	0.025	0.006	0.016
Manitowoc	2265004000	Lawn and Garden Equipment	0.006	0.447	0.013	0.436	0.017	0.187	0.019	0.098
Manitowoc	2265005000	Agricultural Equipment	0.000	0.016	0.000	0.015	0.000	0.008	0.000	0.006
Manitowoc	2265006000	Commercial Equipment	0.001	0.084	0.003	0.095	0.005	0.040	0.006	0.018
Manitowoc	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2265008000	Airport Ground Support Equipment	0.003	0.007	0.003	0.008	0.004	0.009	0.004	0.009
Manitowoc	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2270002000	Construction and Mining Equipment	0.816	0.098	1.025	0.134	1.010	0.165	1.018	0.184
Manitowoc	2270003000	Industrial Equipment	0.139	0.016	0.179	0.022	0.179	0.027	0.181	0.031
Manitowoc	2270004000	Lawn and Garden Equipment	0.005	0.000	0.011	0.000	0.014	0.000	0.016	0.000
Manitowoc	2270005000	Agricultural Equipment	0.578	0.115	0.698	0.150	0.668	0.182	0.664	0.202
Manitowoc	2270006000	Commercial Equipment	0.013	0.001	0.021	0.002	0.027	0.003	0.031	0.003
Manitowoc	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Manitowoc	2270008000	Airport Ground Support Equipment	0.139	0.016	0.263	0.033	0.303	0.049	0.324	0.058
Sheboygan	2275000000	Aircraft	0.000	0.020	0.008	0.014	0.010	0.018	0.011	0.020
Sheboygan	2280000000	Commercial Marine	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2282000000	Recreational Marine	0.037	0.732	0.040	0.785	0.048	0.701	0.053	0.646
Sheboygan	2285002000	Locomotives	0.370	0.050	0.375	0.015	0.333	0.013	0.366	0.014
Sheboygan	2260001000	Recreational Equipment	0.000	0.080	0.000	0.074	0.000	0.049	0.000	0.041
Sheboygan	2260002000	Construction and Mining Equipment	0.000	0.010	0.000	0.008	0.000	0.003	0.000	0.001
Sheboygan	2260003000	Industrial Equipment	0.080	0.040	0.057	0.027	0.036	0.015	0.024	0.009
Sheboygan	2260004000	Lawn and Garden Equipment	0.000	0.580	0.000	0.560	0.000	0.216	0.000	0.094
Sheboygan	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2260006000	Commercial Equipment	0.000	0.010	0.000	0.011	0.000	0.005	0.000	0.002
Sheboygan	2260007000	Logging Equipment	0.000	0.020	0.000	0.025	0.000	0.011	0.000	0.005
Sheboygan	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265001000	Recreational Equipment	0.000	0.050	0.000	0.049	0.000	0.040	0.000	0.038
Sheboygan	2265002000	Construction and Mining Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265003000	Industrial Equipment	0.020	0.070	0.014	0.050	0.009	0.032	0.006	0.021
Sheboygan	2265004000	Lawn and Garden Equipment	0.000	0.390	0.000	0.382	0.000	0.168	0.000	0.092
Sheboygan	2265005000	Agricultural Equipment	0.000	0.120	0.000	0.115	0.000	0.061	0.000	0.044
Sheboygan	2265006000	Commercial Equipment	0.000	0.070	0.000	0.080	0.000	0.034	0.000	0.015
Sheboygan	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2265008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270002000	Construction and Mining Equipment	1.050	0.120	1.317	0.163	1.290	0.201	1.298	0.225
Sheboygan	2270003000	Industrial Equipment	0.270	0.030	0.347	0.042	0.342	0.052	0.345	0.059
Sheboygan	2270004000	Lawn and Garden Equipment	0.010	0.000	0.021	0.000	0.031	0.000	0.037	0.000
Sheboygan	2270005000	Agricultural Equipment	3.350	0.670	4.050	0.879	3.873	1.064	3.849	1.180
Sheboygan	2270006000	Commercial Equipment	0.010	0.000	0.016	0.000	0.021	0.000	0.024	0.000
Sheboygan	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sheboygan	2270008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2275000000	Aircraft	1.210	1.410	1.035	0.202	1.349	0.263	1.489	0.290
Six counties	2280000000	Commercial Marine	0.070	0.010	0.010	0.062	0.010	0.062	0.010	0.062
Six counties	2282000000	Recreational Marine	0.395	6.768	0.424	7.257	0.497	6.511	0.544	6.025

Table 14: Non-Road Emissions (tons per ozone season day) (cont.)

County	SCC	SCC description	1990		1999		2007		2012	
			NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC
Six counties	2285002000	Locomotives	4.360	0.490	4.360	0.170	3.866	0.150	4.254	0.165
Six counties	2260001000	Recreational Equipment	0.000	0.780	0.000	0.724	0.000	0.497	0.000	0.432
Six counties	2260002000	Construction and Mining Equipment	0.000	0.200	0.000	0.158	0.000	0.053	0.000	0.021
Six counties	2260003000	Industrial Equipment	1.440	0.680	1.024	0.471	0.655	0.282	0.424	0.179
Six counties	2260004000	Lawn and Garden Equipment	0.000	9.470	0.000	9.138	0.000	3.535	0.000	1.529
Six counties	2260005000	Agricultural Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2260006000	Commercial Equipment	0.000	1.070	0.000	1.219	0.000	0.515	0.000	0.232
Six counties	2260007000	Logging Equipment	0.000	0.120	0.000	0.150	0.000	0.066	0.000	0.030
Six counties	2260008000	Airport Ground Support Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2265001000	Recreational Equipment	0.000	0.450	0.000	0.436	0.000	0.351	0.000	0.329
Six counties	2265002000	Construction and Mining Equipment	0.000	0.280	0.000	0.235	0.000	0.121	0.000	0.087
Six counties	2265003000	Industrial Equipment	0.450	1.240	0.326	0.875	0.209	0.550	0.135	0.354
Six counties	2265004000	Lawn and Garden Equipment	0.140	9.830	0.305	9.598	0.396	4.099	0.433	2.154
Six counties	2265005000	Agricultural Equipment	0.000	0.250	0.000	0.239	0.000	0.126	0.000	0.089
Six counties	2265006000	Commercial Equipment	0.030	1.840	0.080	2.097	0.113	0.886	0.129	0.399
Six counties	2265007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2265008000	Airport Ground Support Equipment	0.070	0.160	0.078	0.179	0.086	0.196	0.090	0.207
Six counties	2270001000	Recreational Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2270002000	Construction and Mining Equipment	17.610	2.130	22.121	2.893	21.800	3.570	21.990	3.994
Six counties	2270003000	Industrial Equipment	2.910	0.330	3.749	0.460	3.742	0.575	3.797	0.647
Six counties	2270004000	Lawn and Garden Equipment	0.110	0.000	0.222	0.000	0.289	0.000	0.330	0.000
Six counties	2270005000	Agricultural Equipment	9.860	1.950	11.920	2.557	11.398	3.096	11.329	3.434
Six counties	2270006000	Commercial Equipment	0.290	0.030	0.454	0.047	0.600	0.062	0.691	0.072
Six counties	2270007000	Logging Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Six counties	2270008000	Airport Ground Support Equipment	3.170	0.370	6.015	0.761	6.919	1.109	7.417	1.327
Totals			50.54	50.09	62.39	50.80	61.96	35.67	63.19	30.33

Table 15: Emissions Summary by Geographic Area, Year and Source Sector

	NOx					VOC				
	Point	Area	Non-Road	Mobile	Totals	Point	Area	Non-Road	Mobile	Totals
1990										
Six Counties	130.5	21.6	42.1	111.2	305.4	40.4	132.2	39.9	139.3	351.7
Sheboygan County	56.4	1.7	5.2	11.0	74.2	6.7	9.7	3.1	10.0	29.5
Manitowoc County	3.2	1.1	1.9	10.4	16.6	1.2	8.8	2.3	8.1	20.3
Kewaunee County	0.0	0.2	0.5	1.5	2.2	0.9	1.8	0.8	1.5	4.9
Door County	0.0	0.4	0.8	3.3	4.5	0.0	5.7	4.1	2.6	12.4
Totals	190.1	24.9	50.5	137.5	403.0	49.1	158.3	50.1	161.3	418.9
1999										
Six Counties	120.9	15.4	52.2	130.5	319.0	19.8	95.0	39.9	51.6	206.3
Sheboygan County	47.6	1.4	6.2	11.8	67.1	2.9	6.8	3.3	4.6	17.6
Manitowoc County	3.4	0.8	2.5	11.0	17.7	1.9	5.9	2.3	5.1	15.2
Kewaunee County	0.0	0.1	0.6	1.7	2.5	0.6	1.1	0.8	1.0	3.5
Door County	0.0	0.2	1.0	3.6	4.8	0.1	2.4	4.4	1.8	8.8
Totals	171.9	18.0	62.5	158.6	411.0	25.4	111.2	50.7	64.0	251.4
2007										
Six Counties	102.0	16.0	51.9	70.0	239.9	22.9	101.3	26.7	31.8	182.7
Sheboygan County	25.0	1.5	6.0	7.2	39.7	3.4	7.1	2.7	3.4	16.5
Manitowoc County	3.1	0.8	2.4	8.9	15.1	2.2	6.1	1.7	5.1	15.2
Kewaunee County	0.0	0.2	0.6	1.3	2.0	0.7	1.2	0.6	0.9	3.4
Door County	0.0	0.2	1.1	2.6	3.9	0.2	2.4	4.0	1.8	8.3
Totals	130.1	18.7	62.0	90.0	300.8	29.4	118.1	35.7	42.9	226.0
2012										
Six Counties	109.6	16.3	53.1	41.7	220.7	24.9	103.9	22.1	21.4	172.2
Sheboygan County	26.9	1.5	6.0	5.0	39.5	3.7	7.3	2.5	2.5	15.9
Manitowoc County	3.3	0.8	2.4	7.9	14.4	2.4	6.3	1.5	5.0	15.2
Kewaunee County	0.0	0.2	0.6	1.1	1.9	0.7	1.2	0.5	0.9	3.3
Door County	0.0	0.2	1.1	2.3	3.7	0.2	2.4	3.7	1.7	8.1
Totals	139.9	19.0	63.2	58.0	280.1	31.9	121.0	30.3	31.5	214.7